Department of Computer Engineering

Academic Term: First Term 2023-24

Class: T.E /Computer Sem - V / Software Engineering

Practical No:	**4**
Title:	**Calculating function points of the Project**
Date of Performance:	16/08/2023
Roll No:	9542
Team Members:	

Rubrics for Evaluation:

Sr. No	Performance Indicator	Excellent	Good	Below Average	Total Score
1	On time Completion & Submission (01)	01 (On Time)	NA	00 (Not on Time)	
2	Theory Understanding(02)	02(Correct)	NA	01 (Tried)	
3	Content Quality (03)	03(All used)	02 (Partial)	01 (rarely followed)	
4	Post Lab Questions (04)	04(done well)	3 (Partially Correct)	2(submitted)	

Signature of the Teacher:

EXPERIMENT NO 4: FUNCTION POINT CALCULATION

Aim: To calculate the function point for the Farmer Helper App

a) Number of external inputs (EIs)
Soln: Farmer Information, Buyer Information, Registration Information.

b) Number of external outputs (EOs)
Soln: Farmer Receipts, Buyer Receipts, Acknowledge Messages, Error Messages.

c) Number of external inquiries (EQs)
Soln: Transaction Status, Farmer Information, Buyer Information.

d) Number of internal logical files (ILFs)
Soln: Farmer Data, Buyer Data.

e) Number of external interface files (EIFs)
Soln: OTP Authentication Page, Payment Gateway

Information Domain Value	Count		Weighting factor Simple	Average	Complex		
External Inputs (EIs)	3	×	3	4	6	=	9
External Outputs (EOs)	3	×	4	5	7	=	12
External Inquiries (EQs)	3	×	3	4	6	=	9
Internal Logical Files (ILFs)	2	×	7	10	15	=	14
External Interface Files (EIFs)	2	×	5	7	10	=	14
Count total	→						58

The Fi (i=1 to 14) are value adjustment factors (VAF) based on responses to the following questions:

1. Does the system require reliable backup and recovery?
Response: 3

2. Are specialized data communications required to transfer information to or from the application?

Response: 5

3. Are there distributed processing functions?

Response: 3

4. Is performance critical? Response: 5

5. Will the system run in an existing, heavily utilized operational environment?
Response: 2

6. Does the system require online data entry?
Response: 5

7. Does the online data entry require the input transaction to be built over multiple screens or operations? Response: 3

8. Are the ILFs updated online? Response: 5

9. Are the inputs, outputs, files, or inquiries complex?
Response: 2

10. Is the internal processing complex?
Response: 2

11. Is the code designed to be reusable?
Response: 4

12. Are conversion and installation included in the design?
Response: 0

13. Is the system designed for multiple installations in different organizations?
Response: 0

14. Is the application designed to facilitate change and ease of use by the user?
Response: 4

Calculations:

Given: Σ (Fi) = 43

To Calculate: FP

Formula: 1. FP= UAF*CAF

2. CAF= 0.65 +0.01 * Σ (Fi)

Soln: CAF = 0.65+0.01* Σ (Fi)

CAF = 0.65+0.43 CAF = 1.08

FP = UAF*CAF

FP = 58*1.08 FP = 62.64

The Function Point for Farmer Helper App is 62.64.

Conclusion: The Function Point (FP) value for the Farmer Helper App is 62.64. This metric reflects the system's complexity and size, by taking the factors stated above into consideration. The Function Point metric offers insightful data on the time and resources needed for platform development, testing, and maintenance.

POST LAB:

Qno1:Critically evaluate the FunctionPoint Analysis method as a technique for software sizing and estimation, discussing its strengths and weaknesses.

Ans: Strengths of Function Point Analysis (FPA):

User-centric approach.

Technology-agnostic.

Comprehensive view.

Historical data utilization.

Helps in project planning.

Weaknesses of Function Point Analysis (FPA):

Subjectivity in counting.

Learning curve.

Complexity for large projects.

Limited scope.

Not suitable for all projects.

Maintenance challenges.

Qno2: Apply the Function Point Analysis technique to a given software project and determine the function points based on complexity and functionalities.

Ans: Function Point Analysis (FPA) is a detailed process that requires a complete understanding of the software project's requirements and functionalities. It involves categorizing and counting various function point types, including External Inputs (EIs), External Outputs (EOs), External Inquiries (EQs), Internal Logical Files (ILFs), and External Interface Files (EIFs).

THIS HAS BEEN ALREADY DONE IN THE EXPERIMENT ABOVE:

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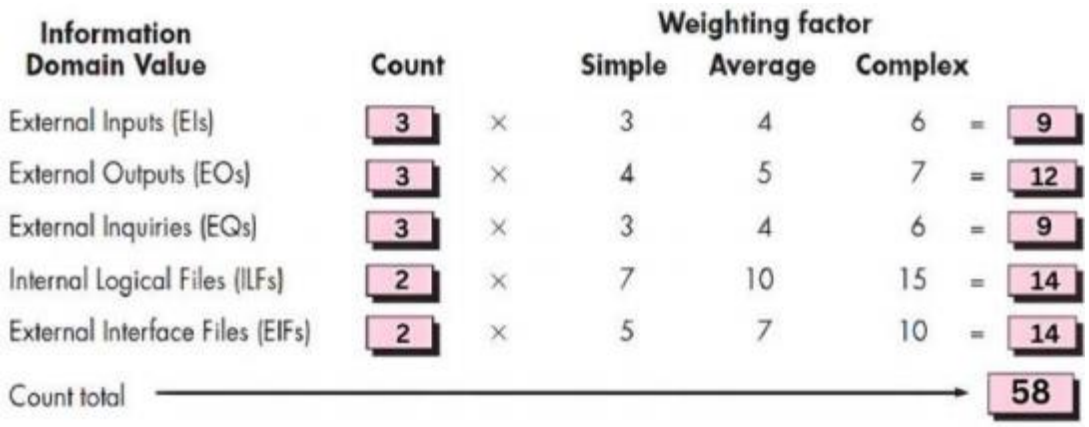

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Qno3:Propose strategies to manage and mitigate uncertainties in function point estimation and how they can impact project planning and resource allocation.

Ans: Function point estimation is a critical aspect of project planning in software development, and uncertainties in this estimation can have a significant impact on project success. To manage and mitigate uncertainties in function point estimation and their impact on project planning and resource allocation, consider the following strategies:

Diverse Estimation Techniques:
Use multiple estimation methods for cross-validation.

Learn from History:
Analyze past projects to establish benchmarks.

Expert Involvement:
Engage experienced domain experts for better estimates.

Prototyping:
Develop prototypes to clarify requirements early on.

Risk Analysis and Contingency:
Identify risks and plan contingencies for uncertainties.

Sensitivity Analysis:
Assess how estimates affect project timelines.

Buffer Allocation:
Include buffers for schedule and resource flexibility.

Regular Updates and Reviews:
Continuously adjust estimates as the project progresses.

Stakeholder Communication:
Keep stakeholders informed about estimation uncertainties.

Skill Development:

Train the estimation team for better accuracy.

Estimation Tools:
Use specialized software tools for accurate estimates.

Benchmarking:
Compare estimates to industry standards and benchmarks.

Iterative Development:
Adopt Agile or similar methods for adaptability.

These strategies will help reduce uncertainty and improve project planning and resource allocation